SOP 1 - Avoidance of Routine Exposure

A. Routes of entry for chemicals into the human system:

1. Inhalation
2. Ingestion
3. Absorption
4. Injection

B. Methods for interrupting the routes of entry of hazardous chemicals

1. Engineer the hazard out of an operation by designing the process to use nontoxic chemicals.

2. Substitute a less toxic or nontoxic chemical for the more toxic chemicals used in experiments.

3. Design experiments and processes to limit the time employees are exposed to potentially hazardous chemicals and to limit the quantities of chemicals to which employees are exposed.

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5. Isolate potentially hazardous operations from humans:

   a. Isolate the operation from the human by performing it in a remote or protected environment (e.g., performing the operation inside hoods or glove boxes, using robots to perform high hazard jobs, etc.).
   b. Isolate the human from the operation by placing the human in a control room or by using appropriate personal protective equipment.

6. Utilize general and local exhaust ventilation for contaminant control.

7. Maintain good personal hygiene:

   a. Provide cleansers and water for washing exposed skin.
   b. Verify that emergency showers and eyewash fountains are available and in proper operating condition.
   c. Prohibit eating, drinking, or smoking in areas where toxic materials are being used.

8. Maintain proper housekeeping, equipment upkeep, and waste disposal.

C. Perform operations in accordance with the Chemical Hygiene Program, Hazard Communication Program, and other chemical safety programs instituted at the Location.

D. Insure that employees are trained in the hazards of their jobs:

1. The chemical hazards involved in the processes.

2. The control of chemical contamination via personal protective equipment, operations design, special equipment, etc.

3. The signs of chemical overexposure.

4. Emergency and decontamination procedures.